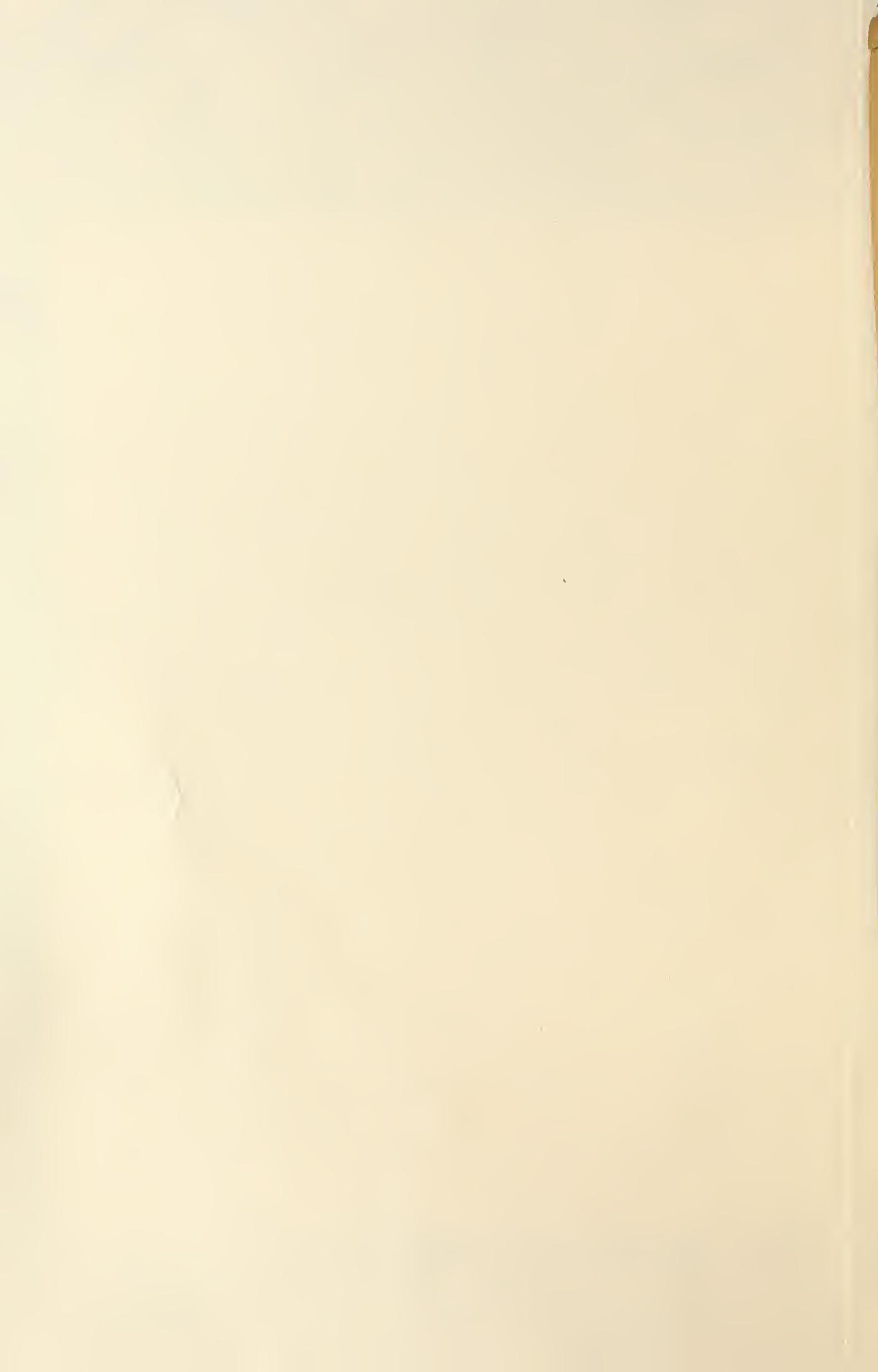


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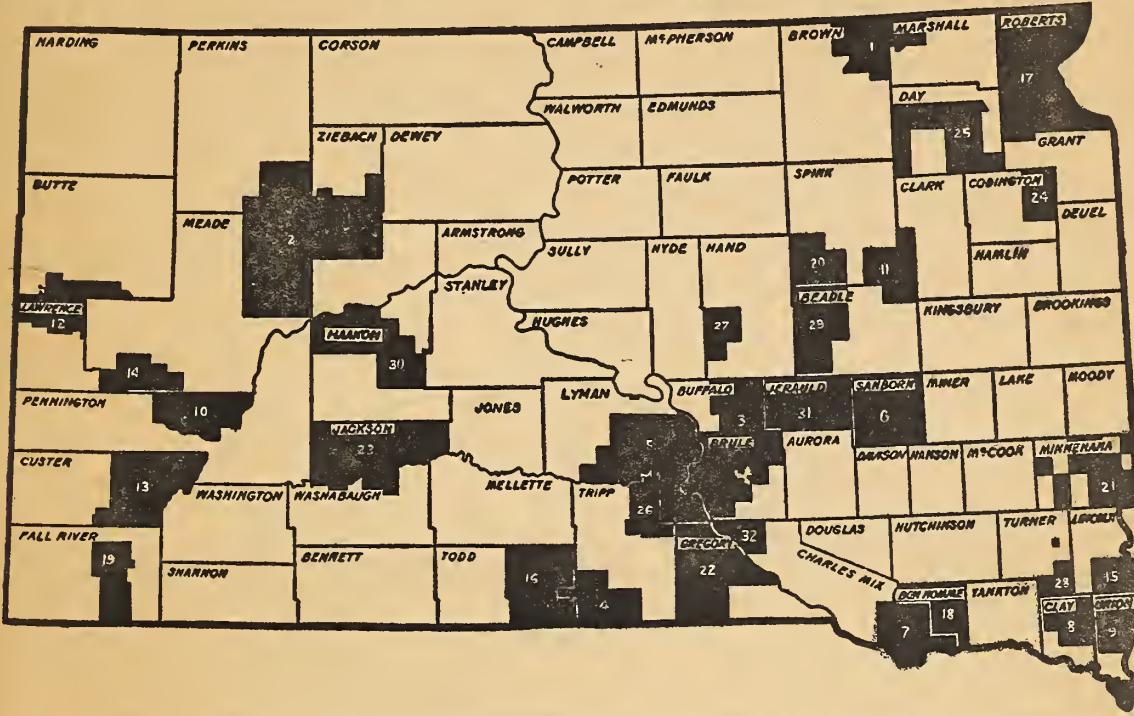
# Dakota Zephyr

South Dakota State College Extension Service, Brookings

*The Soil Is the Basis of Civilization; Destroy It and You Destroy All!*

February 29, 1944

## State Now Has 32 SC Districts



This map shows the 32 South Dakota soil conservation districts which include 9,387,841 acres and 19,537 farms and ranches. This is approximately one-fourth of the land in farms and one-fourth of the farmers in the state. Names of the districts in the order

of their organization are: 1, Brown-Marshall; 2, Tri-County; 3, Brule-Buffalo; 4, Clearfield-Keyapaha; 5, American Creek; 6, Silver Creek; 7, Emanuel-Choteau; 8, Clay county; 9, Sioux Brule; 10, Pennington; 11, Carpenter; 12, Lawrence-Butte; 13, Custer county; 14, Elm Creek; 15, Lincoln; 16, Acadamy.

Rosebud; 17, Roberts; 18, Scotland; 19, Fall River; 20, Tulare-Redfield; 21, Minnehaha; 22, Gregory; 23, Jackson; 24, Northeast Codington; 25, Day; 26, Hamill; 27, Elm Creek-Midland; 28, Turner; 29, West Beaulieu; 30, Haakon; 31, Jerauld; and 32, Acadamy.

## American Creek District Grows Without Pushing'

Reliance, S. D.—Horace R. Wagner, Chairman of the South Dakota Association of Soil Conservation Districts, is also a member of his local conservation district board in Lyman county. Here is what he recently wrote about his own district:

"The American Creek district has had a very healthy and satisfactory growth and in no way has been 'pushed' to get cooperation against farmers' wishes. I never want to see that type of growth used. When farmers see the progress and benefits of the conservation program on neighboring farms, it awakens interest and creates a need in itself for the work."

"The most outstanding work we have done in this district is in building stock water dams and in contouring fields. The benefits of these two

practices are so apparent and easily understood that they carry themselves progressively through the district.

"The work in the district has been received by businessmen and the press with little or no adverse comment. Its aims and practicability are so apparent that they are readily understood and appear worthwhile to most everyone."

### Stabilizes

Springfield, S. D.—E. B. Dwight, district supervisor and banker, says: "I feel that every time we get a farmer to cooperate with the Soil Conservation Service, it tends to stabilize our bank just that much more."

## Increase Ditch Water Third by Re-Cleaning

Spearfish, S. D.—During the summer and fall of 1943, the Cook ditch association, Spearfish, cleaned the entire nine miles of their main irrigation canal. A dragline loaned by the government to the Lawrence-Butte Soil Conservation district was used to do the work. This canal carries water to nine farmers who irrigate approximately 800 acres. The farmers estimate the canal was able to carry one-third more water this year than in any recent year. The past season was dry in Lawrence county and all water was used to good advantage to produce increased crop yields.

## Practices Show Steady Growth In Eight Years

Farmers have steadily increased their soil conservation practices since the first South Dakota soil conservation district was organized in 1937, according to Ross D. Davies, state conservationist.

Technicians helped develop 1,659 farm plans last year covering 998,705 acres. They completed soil surveys on 1,092,399 acres. In all, combined treatment of soil conservation practices was applied to 624,885 acres.

Established this year were 51,416 acres of contour cultivation which doubled the 1942 acreage. Subsurface tillage or stubble mulch was practiced on 285,000 acres, 133,100 of which were applied in 1943.

Wind strip cropping on 20,855 acres and intensive weed control on 1,763 were underway. Seeded to grass were 34,162 acres and conservation rotations were established on 159,329 acres. Six hundred thirty-one new dams and dugouts were built, 12 springs, 35 gully control-structures, 1,537 rods of gully diversion and 22,600 feet of gully blading received attention.

### 60 Miles Dikes Built

Water spreading was applied on 2,062 acres, terracing started on 676 acres and pasture furrows applied on 739 acres. Sixteen new wildlife dams were built. For flood control, 60 miles of dikes and drains were built and 41 miles of field diversions. Grassed waterways to handle runoff water totalled 440 acres. Dune and blowout control were applied on 1,066 acres. Twelve trench silos were built with district equipment.

More than two million trees were planted on 321 acres for field shelterbelts and 550 acres for farmstead

*Continued on Page 2*

# CRESTED SHOULD BE CUT EARLY

## Cuts As Bloom Starts; Cattle Leave Alfalfa

Sturgis, S. D.—In 1939, John D. Keffeler, rancher 20 miles east of Sturgis, signed a cooperative agreement with the demonstration project which at that time was functioning through the Fort Meade CCC Camp.

In accordance with his conservation plan, Mr. Keffeler seeded 150 acres of cropland to crested wheatgrass for hay. He was rewarded with a fine stand which produced more hay than he expected, but his cattle didn't care much for it. Last year, quite by accident, John discovered how to make crested wheatgrass hay palatable to livestock.

Like everyone else, Keffeler was "snowed under" with work, and to get all his work done he put up his hay earlier than was the custom in his neighborhood, so early, in fact, that the wheatgrass was just beginning to bloom. John said, "When I started feeding last fall I gave the cattle both alfalfa and crested wheatgrass hay, and be darned if they didn't pass up the alfalfa for the grass. I found out that the way to make good hay out of crested wheatgrass is to put it up early—the earlier the better."

More War Food with Contours

## Codington Stresses

Watertown, S. D.—The Northeast Codington Soil Conservation district was organized in April, 1942. It consists of 121,068 acres located in the six townships east of highway 81 in Codington county. One of the major projects on this district has been noxious weed control. In the spring of 1943 a weed control ring was organized and the district supervisors secured the equipment necessary for the fallowing of 70 acres.

One field of leafy spurge was included in the ring, the balance of the weed control work was on creeping jenny. The original plan was to seed rye early in the fall but due to the excessive rains and mild fall weather it was found that weeds continued to grow at seeding time. The plans were, therefore, changed and two additional cultivations were made with duck-foot cultivators. On the final cultivation which was made early in Oc-

## Planning for Diversion and Irrigation in Day County

### Didn't Wash At All

"My row crops listed on the contour did not wash out at all this year, while my neighbors, farming up and down the hill, had to replant their fields a couple of times. I believe that contouring pays for itself just in the seed it saves a fellow. It doesn't take me any longer to farm on the contour than it used to either. I think it saves on machinery too. I don't have to shift gears now that I farm this way, in fact I could list all my row crops in fourth gear if the lister could take it that fast."—JAMES BARR, Belvidere.

### Contours Make Lake After Winter Rain

Sioux Falls, S. D.—Thomas Grocott, district supervisor, finds that contour farming holds winter moisture. "During the recent rain my contoured cornfield held all the water that fell. It looked like a lake from top to bottom. There was no runoff water from any part of the field," says Mr. Grocott. "These winter rains are unusual in this part of the country but you certainly could see the effect of contouring—much better than in the summer."

### Weed Control

tober, damming attachments were added to the cultivators so as to leave the ground in a roughened condition over winter. This was proven very beneficial as no soil-washing occurred on these fields following a 1.7-inch rain on October 12.

It is planned to duck-foot these fields early in the spring of 1944. On fields that show no evidence of weed growth, a smother-crop of sudan or millet will be seeded. On other fields on which weeds are prevalent a fallow program will be continued throughout the second season.

It is interesting to note that the field of leafy spurge is responding to the fallow method of control very favorably. Although there was still weed growth at the time of the final cultivation, it was evident that the plants were weak and spindly. This field will be duck-footed for two years and then fall seeded to rye.

### Weed Control Ring Increases Yield 50%

Woonsocket, S. D.—Martin Anderson, who has been a member of the Silver Creek Soil Conservation District weed control ring for two years reports, that in addition to getting an excellent kill of his creeping jenny, he also got a 50 per cent increase in crop yield following a year of clean cultivation.

The district worked 20 acres of "jenny" for Anderson in 1942 and he reports a yield of 30 bushels of barley on this field in 1943 as compared with 15 bushels of barley on an adjoining field not worked in 1942.

The Silver Creek district worked 121 acres of noxious weeds for 28 farmers in 1942 and 101 acres for 19 farmers in 1943 through their weed control ring.

More War Food with Contours

### Academy District Is Now Organized

Academy, S. D.—The Academy Soil Conservation district, comprising three townships in the northwest portion of Charles Mix county, was organized last fall. Much interest is shown by operators in contouring, retention of water by building stock water dams and in grass seeding. More than 3,000 acres were staked for contouring during the month of January.

More War Food with Contours

### Soil Conserving Methods Grow

Continued from Page 1

windbreaks. A half million board feet of logs were harvested from district cooperating farms, besides 14,600 fence posts and 225 cords of wood.

To improve irrigation farming, the engineers built 60 diversion dams and repaired seven. They cleaned 14 miles of canals, 198 feet of flumes and constructed three miles of irrigation ditches. Irrigation systems were laid out on 38 farms to cover 3,851 acres and land leveling for improved irrigation was done on 327 acres.

Webster, S. D.—A unique water diversion and irrigation program is being worked out on the E. S. McFadden farm with the assistance of the Day County Soil Conservation district.

The system consists of holding as much of the rain and snow water on the slopes as possible to allow it to soak into the subsoil and divert the balance along regular grassed waterways to storage basins or reservoirs. The flood waters are kept out of the low places by means of dikes and the capacity of the storage basins enlarged by a dam.

#### Irrigate Garden and Alfalfa

Water from the reservoirs can be run by natural regulated flow to irrigate fields of alfalfa and a garden and the surplus runs into a permanent pothole that will be used for wildlife.

The success of the whole arrangement depends on taking advantage of the topography of the land and constructing a minimum number of structures to control the flow of the water.

Another unique part of the system is that water is diverted from one low place into a pothole on the farm of his neighbor, Harold Brolin, and then back again onto the McFadden farm making a number of acres more cropland that would otherwise be wasteland.

#### Eliminates A Weed Patch

Not only is this lowland productive but having it in crop eliminates it as a weed patch and area of infestation of weed seed for the nearby fields.

As it is planned to contour farm the fields around these potholes the amount of water that goes through the waterways will be greatly reduced by this practice. Howard Burns is the new operator on the McFadden farm previously operated by Henry Brudos.

### DAKOTA ZEPHYR

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RALPH E. HANSEN..... Extension Soil Conservationist  
ROSS D. DAVIES..... State Conservationist

#### CONSERVATION ASSOCIATION OFFICERS

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# CONTOURS UP YIELD 15 BUSHELS

## Mechanical Picker OK on Level

Canton, S. D.—“Farming on the contour is easy,” Trygve Eidsness of Hudson, said, after his first year of farming on the level.

Eidsness is farming a 160-acre farm that had been planned by the Civilian Conservation Corps in 1937. This plan included a full system of terraces. Although the former tenant planted his crops without regard to the terraces, Eidsness decided to follow the recommendations of the Soil Conservation Service and plant his crops with the terraces.

The land then in stubble was plowed using each terrace ridge as a backland. Since Eidsness was not familiar with these terraces it was a confusing problem to know where to start. He did finish with a few irregular patches of land. After his crops were planted his big troubles were over.

### No Trouble With Picker

The corn was picked with a pull type mechanical picker with no particular difficulty. In fact Eidsness says that this corn was easier to pick than his corn was a year ago when it was planted up and down the hill. This was due to the fact that he did not have any hills to climb and there were no ditches to cross.

Even with the heavy rains of last spring there was little washing and a small amount of runoff. This resulted in more water staying on the field where it would do the crop some good.

Yield is the yard stick to measure

by. The corn this year even on the steepest land, usually considered to be the poorest, Eidsness received a yield of 65 bushels per acre.

He concludes, “Keep the rainfall on the hills by terracing and farming with the terraces. The work will be easier and the soil will be there to produce a good crop where you plant it.”

More War Food with Contours

## Pennington District Had Two Dam Building Outfits Working

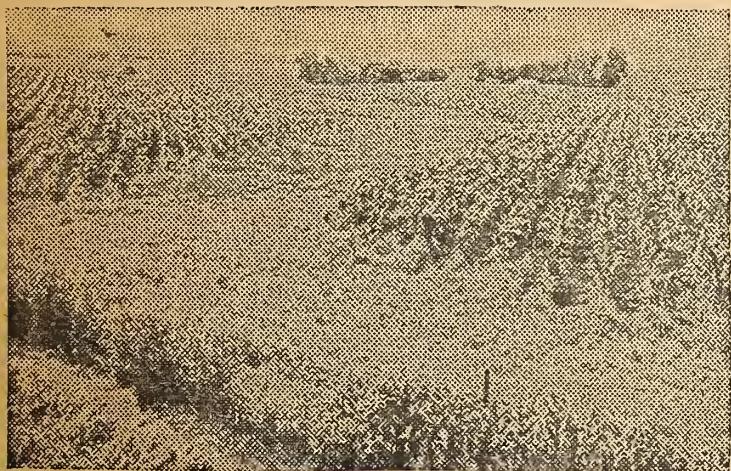
Rapid City, S. D.—The Pennington Soil Conservation District stressed water conservation last season. To date 61 stock water dams have been constructed. All dams when full will have from 7 to 12 feet of water. Over 91,000 cubic yards were moved. Experience has shown that, once filled, such dams provide permanent stock water.

The district had two construction outfits working. One outfit is loaned to the district by the Soil Conservation Service. The other is owned by a contractor and is doing custom work for the district on the contract basis.

The supervisors feel that if the above equipment had not been available not more than 10 per cent of the dams would have been constructed.

Contour farming is another practice being carried out by farmers co-operating with the district. Over 3,000 acres were farmed on the contour in 1943.

## Way to Stop Gully Formation



Cornfields on the contour separated by a natural grassed waterway on the Alfred Dybedahl farm, six miles west of Dell Rapids. Dybedahl is one of the supervisors of the Minnehaha Soil Conservation district. This is his second year of contour farming. The benefits to be derived from it have made him a firm believer in this conservation practice.

### Doesn't Get Time

“I don't get time in a year to get all the conservation practices established that I want to. I wish we could have had a district years ago. There's a lot of land I never would have broken up. A district then could have saved me a lot of work which I have done on low producing land. As it is now I am going to farm fewer acres, farm only on my best land and on the contour. I intend to put all low producing land into grass. This will save all that work I have been doing for nothing on land which is too poor to produce crops.” JOE BARTH, Kadoka.

## Must Not Drill Corn too Thick On the Contour

Yankton, S. D.—Ragnvold Mikkelsen, who farms 4 miles northwest of Irene, in Yankton county, has carried out conservation practices during the past year on an extension demonstration basis.

Mr. Mikkelsen farms 160 acres of rolling land and severe erosion has taken place on his farm. Much topsoil is gone and several gullies passed through his farm. He realizes that a conservation program is needed to conserve his soil, as well as moisture for future crop use. He recently purchased this place.

### Contours 111 Acres

During 1943 Mr. Mikkelsen contoured 111 acres of his cropland. In talking with Mr. Mikkelsen this winter he mentioned that some of his corn yielded 40 bushels to the acre, and some on the poorer soil yielded 25 bushels. He felt that this was generally as good or better than the average in the community and he was well pleased considering the dry spell that we had during the summer.

“One thing that we have to be careful about,” Mr. Mikkelsen says, “is not drill our corn too thick when we contour. Mine was thicker than it should have been considering the dry weather.

“If I had planted it about 14 inches apart in the row my yields would have been consistently better I am sure. Even so, I am very well pleased with the yields considering the dry weather and in comparing it with the neighbors.”

More War Food with Contours

## Level Furrows Hold Moisture

Wessington Springs, S. D.—The two inches of rain and snow which fell here January 27 were very welcome. Much of the rain, however, immediately ran off into sloughs and into the creeks.

Alfred Endahl, who lives southeast of here, reports that his lister furrows put in on the contour last fall caught and held every bit of the rain and snow. During a heavy rain last fall these same furrows held back water which has always before escaped down a drainageway. Endahl has found upon examination that moisture has already soaked into the furrow bottoms six to eight inches.

The equipment used in construction was a rotary scraper and 65 horse-power crawler-type tractor furnished by the Soil Conservation Service. The work was supervised by L. K. Brown, district engineer.

# TREES GOOD AS EXTRA COW BARN

## 25 Foot Trees Good Winter Cattle Shelter

Hecla, S. D.—C. W. Lamb, a co-operator on the Brown-Marshall Soil Conservation district, is making good use of his 1935 tree plantings to increase his cattle production. Mr. Lamb states, "This grove of trees, even though only 20 to 25 feet high, is worth a lot for cattle shelter during the winter months. It eliminates the need for additional barn space and consequently cuts down a great deal on the labor involved in caring for the cattle. In fact, without the trees, I don't think it would be possible for us to carry over two-thirds of our present cattle numbers."

Since making the original tree planting in 1935 of about 5 acres for livestock and farmstead protection, Lamb planted an additional 20 acres of trees in 1939 for permanent field shelterbelts.

More War Food with Contours

## Only One Weak Jenny Left

Spearfish, S. D.—On September 10, 1942, Mrs. John Brakke, Spearfish, borrowed the "antiweed gun" from the Lawrence-Butte Soil Conservation district. Fourteen square rods of creeping jenny in her irrigated garden were shot with activated carbon bisulphide at a cost of \$21. A check was made of the patch October 2, 1943—only one weak plant could be found.

## Builds Terrace with Small Farm Tractor

Alcester, S. D.—Ed Dannenberg, three miles east of Alcester, is just starting cooperation with the Sioux-Brule Soil Conservation district, but has become the first in the district to build terraces with his own equipment—a tractor and plow. He has two terraces totalling a half mile in length.

His equipment, Dannenberg said, consisted of the smallest size farm tractor and a two-bottom plow, and it took about 30 rounds to build each of the two terraces. If he had a tractor so that he could pull the plows faster, Dannenberg said, he could build the terraces more rapidly and with fewer rounds.

### Cheaper than Heavy Machines

"This is a whole lot cheaper than building terraces with heavy equipment," Dannenberg said. "All it cost was about 25 gallons of tractor fuel and took a day's time."

District technicians have helped Dannenberg work out a complete soil and water conservation plan, which he plans to develop field by field, starting with the one where he built the terraces.

Before terracing he subsurface tilled the field on the contour. His light tractor was able to pull the six-foot subsurface tillage machine on the contour, but could not move it uphill.

More War Food with Contours

*It takes hundreds of years to build an inch of topsoil, but only a short while is needed for wind or water to carry it away.*

## District Completes First Year of Creeper Control

Redfield, S. D.—The Tulare-Redfield Soil Conservation district has just completed its first year of creeping jenny eradication using both tillage methods and chemicals. Fine cooperation of the Spink county commissioners, railroads and township boards is making it possible to effectively control infested areas. Fields infested have been cultivated every 12 days since the plants first appeared last spring. This work was done with a subsurface tiller and a farm tractor furnished by the Soil Conservation Service. The number and strength of the plants in these areas have been greatly reduced and it is believed that from 75 to 90 percent kill will be obtained this year in many of the areas.

Some areas cultivated adjoin county and township roads and railroads. These infested road areas are chemically treated by the owner.

The total acreage cultivated was 152 acres and included 26 different farms. It is expected that two units will be operated this year. This work was done under the supervision of A. B. Gilbertson, district conservationist.

More War Food with Contours

## All Grassed Over

Sioux Falls, S. D.—Carl Berdahl, a cooperator, reports that pasture furrows which were constructed in September, 1942, were all grassed over by the summer of 1943. No extra grass seed was used to reestablish the stand in the furrows.

## Good Seed Important To Get Grass Stand

Mission, S. D.—Out in the Rosebud country the farmers and ranchers have seeded a lot of idle land back to grass and there is a lot more that needs reseeding. More and more often you hear one of these men say, "I'd rather pay a little more and get good seed than get this cheap seed that hasn't been cleaned."

The use of high quality seed is the most important factor in securing a good stand of grass. It is important to sow this seed in the fall of the year and it is important that a drill be used for sowing it, but the best job in the world won't overcome the ill affects brought about by the use of poor seed.

Tom Lydon and John Janssen looked the county and neighboring counties over for a supply of clean grass seed without success. They finally found a supply of seed which, though it was not clean enough to drill, was at least crested wheatgrass seed. They decided to clean it up themselves. It was impossible to get the seed through the hopper of the fanning mill in its original condition so they ran it through a combine first to remove the "big chunks." After this operation the seed fanned out very well, testing more than 90 percent purity and 90 percent germination.

The combined operations required about a day and a half to secure 2,000 pounds of clean seed.

More War Food with Contours

*When contour farming is not enough to control water erosion, it may be necessary to build terraces.*